- (e) The generator set must start by hydraulic, compressed air, or electrical means.
- (f) The generator set must maintain proper lubrication when inclined to the angles specified in §112.05–5(c), and must be arranged so that it does not spill oil under a vessel roll of 30 degrees to each side of the vertical.
- (g) The generator set must shut down automatically upon loss of lubricating oil pressure, overspeed, or operation of a fixed fire extinguishing system in the emergency generator room (see §111.12–1(b) for detailed overspeed trip requirements).
- (h) If the prime mover is a diesel engine, there must be an audible alarm that sounds on low oil pressure and high cooling water temperature.
- (i) If the prime mover is a gas turbine, it must meet the shutdown and alarm requirements in §58.10-15(f) of this chapter.
- (j) An independent fuel supply must be provided for the prime mover.
- (k) Each emergency generator that is arranged to be automatically started must be equipped with a starting device with an energy-storage capability of at least six consecutive starts. A second, separate source of starting energy may provide three of the required six starts. If a second source is provided, the system need only provide three consecutive starts.

[CGD 74-125A, 47 FR 15267, Apr. 8, 1982, as amended by CGD 94-108, 61 FR 28287, June 4, 1996; USCG-2004-18884, 69 FR 58348, Sept. 30, 2004]

## §112.50-3 Hydraulic starting.

- A hydraulic starting system must meet the following:
- (a) The hydraulic starting system must be a self-contained system that provides the cranking torque and engine starting RPM recommended by the engine manufacturer. The hydraulic starting system must be capable of six consecutive starts, unless a second, separate source of starting energy capable of three consecutive starts is provided. A second, separate source of starting energy may provide three of the required six starts. If a second source is provided, the hydraulic system need only provide three consecutive starts.

- (b) The stored hydraulic pressure must be automatically maintained within the predetermined pressure limits.
- (c) The means of automatically maintaining the hydraulic system within the predetermined pressure limits must be electrically energized from the final emergency bus.
- (d) There must be a means to manually recharge the hydraulic system.
- (e) Charging of the hydraulic starting system must not cause insufficient hydraulic pressure for engine starting.

[CGD 74–125A, 47 FR 15267, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28287, June 4, 1996]

## §112.50-5 Electric starting.

An electric starting system must have a starting battery with sufficient capacity for at least six consecutive starts. A second, separate source of starting energy may provide three of the required six starts. If a second source is provided, the electrical starting system need only provide three consecutive starts.

[CGD 94-108, 61 FR 28288, June 4, 1996]

## §112.50-7 Compressed air starting.

- A compressed air starting system must meet the following:
- (a) The starting, charging, and energy storing devices must be in the emergency generator room, except for the main or auxiliary air compressors addressed in paragraph (c)(3)(i) of this section.
- (b) The compressed air starting system must provide the cranking torque and engine starting RPM recommended by the engine manufacturer.
- (c) The compressed air starting system must have an air receiver that meets the following:
- (1) Has a capacity for at least six consecutive starts. A second, separate source of starting energy may provide three of the required consecutive starts. If a second source is provided, the compressed air starting system need only provide three consecutive starts.
  - (2) Supplies no other system.
- (3) Is supplied from one of the following: